

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-15 (Canceled)

16. (Currently Amended) A method for establishing vascular access, said method comprising:

forming a percutaneous tissue tract to a target blood vessel;

positioning a guidewire through the tissue tract;

positioning a radially expandable sleeve in direct contact with and over the guidewire and through the tissue tract with a distal end in the blood vessel and a proximal end outside the tissue tract, wherein the expandable sleeve is in a narrow diameter configuration; and

inserting the dilator over the guidewire and into the radially expandable sleeve to radially expand the expansible sleeve to a larger diameter configuration to provide an access lumen to the blood vessel.

17. (Original) A method as in claim 16, wherein forming the percutaneous tissue tract comprises penetrating a needle through tissue overlying the target blood vessel, passing the guidewire through the needle, and removing the needle from over the guidewire.

18. (Original) A method as in claim 16, wherein positioning the radially expandable sleeve comprises advancing a sleeve having an outer diameter which is no more than 300% of the outer diameter of the guidewire.

19. (Original) A method as in claim 16, wherein the radially expandable sleeve has a compliant or elastic structure so that its cross-section will collapse after expansion.

Claims 20-21 (Canceled)

22. (Currently Amended) A method as in claim 16, wherein the radially expandable sleeve is a braid ~~[[is]]~~ embedded in or covered by an elastic layer.

23. (Currently Amended) A method as in claim 16, wherein the radially expandable sleeve is plastically deformable ~~or has a locking structure~~ so that it retains its expanded diameter.

24. (Original) A method as in claim 16, wherein the radially expandable sleeve comprises an anti-thrombotic coating.

25. (Original) A method as in claim 24, wherein the radially expandable sleeve is positioned by advancing the sleeve behind a tapered distal tip.

26. (Original) A method as in claim 16, wherein the guidewire has a nominal diameter of 0.89 mm (0.035 in.), the dilator has a lumen diameter of 1 mm (0.4 in.), and the sleeve has a lumen diameter prior to expansion of 0.96 mm (0.038 in.).

27. (Original) A method as in claim 26, wherein the dilator has an outside diameter in the range from 1.3 mm to 3.3 mm.

28. (Original) A method as in claim 16, wherein the guidewire has a nominal diameter of 0.36 mm (0.014 in.), the dilator has a lumen diameter of 0.46 mm (0.018 in.), and the sleeve has a lumen diameter prior to expansion of 0.41 mm (0.016 in.).

29. (Original) A method as in claim 28, wherein the dilator has an outside diameter in the range from 1 mm to 2.5 mm.

30. (Currently Amended) A method for establishing vascular access, said method comprising:

forming a percutaneous tissue tract to a target blood vessel;

positioning a guidewire through the tissue tract;

positioning a radially expandable sleeve directly over the guidewire and through the tissue tract with a distal end in the blood vessel and a proximal end outside the tissue tract, wherein the expandable sleeve is in a narrow diameter configuration, wherein the radially expandable sleeve comprises a tubular braid formed of a mesh of non-elastic filaments which axially shorten the braid upon radial expansion thereof;

introducing a dilator over the guidewire, and into and through the expandable sleeve to increase the diameter of the expandable sleeve to a larger diameter; and

removing an inner dilator portion of the dilator from the expandable sleeve and leaving a sheath of the dilator interposed between the guidewire and the expandable sleeve, wherein the shaft causes the expandable sleeve [[retains]] to retain the larger diameter.

31. (Original) A method as in claim 30, wherein forming the percutaneous tissue tract comprises penetrating a needle through tissue overlying the target blood vessel, passing the guidewire through the needle, and removing the needle from over the guidewire.

32. (Original) A method as in claim 30, wherein positioning the radially expandable sleeve comprises advancing a sleeve having an outer diameter which is no more than 300% of the outer diameter of the guidewire.

33. (Original) A method as in claim 30, wherein the radially expandable sleeve has a compliant or elastic structure, wherein the large diameter of the sleeve is maintained by an outer tube of the dilator which remains in place after the dilator is removed.

Claims 34-35 (Canceled)

36. (Previously Presented) A method as in claim 30, wherein the braid is embedded in or covered by an elastic layer.

37. (Currently Amended) A method as in claim 30, wherein the radially expandable sleeve is plastically deformable ~~or has a locking structure~~ so that it retains its larger diameter after the dilator is withdrawn from the lumen of the sleeve.

38. (Original) A method as in claim 30, wherein the radially expandable sleeve comprises an anti-thrombotic coating.

39. (Original) A method as in claim 38, wherein the radially expandable sleeve is positioned by advancing the sleeve behind a tapered distal tip.

40. (Original) A method as in claim 30, wherein the guidewire has a nominal diameter of 0.89 mm (0.035 in.), the dilator has a lumen diameter of 1 mm (0.4 in.), and the sleeve has a lumen diameter prior to expansion of 0.96 mm (0.038 in.).

41. (Original) A method as in claim 40, wherein the dilator has an outside diameter in the range from 1.3 mm to 3.3 mm.

42. (Original) A method as in claim 30, wherein the guidewire has a nominal diameter of 0.36 mm (0.014 in.), the dilator has a lumen diameter of 0.46 mm (0.018 in.), and the sleeve has a lumen diameter prior to expansion of 0.41 mm (0.016 in.).

43. (Original) A method as in claim 42, wherein the dilator has an outside diameter in the range from 1 mm to 2.5 mm.

44. (Currently Amended) An improved method for establishing vascular access, said method being of the type wherein a tapered dilator is introduced over a guide wire to enlarge a percutaneous tissue tract, wherein the improvement comprises introducing a radially expandable sleeve directly over the guidewire prior to introducing the dilator, wherein the radial expandable sleeve comprises a tubular braid formed of a mesh of non-elastic filaments which axially shorten the braid upon radial expansion thereof, and thereafter introducing the dilator over the guidewire and ~~[[through]]~~ into the sleeve, whereby axial forces on the tissue from the dilator are reduced.

Claims 45-50 (Canceled)